Find the Percent of a Number

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CONCEPT 1

Find the Percent of a Number

Here you'll find the percent of a number using multiplication.

Do you like to ride roller coasters? Take a look at this dilemma.

At an amusement park there is an average of 30,000 visits daily. Over 75% of those people ride on the biggest roller coasters. About how many people ride the roller coasters?

To figure this out, you will need to find the percent of a number. Pay attention and you will know how to solve this problem by the end of the Concept.

Guidance

We said that percent are very useful. Part of the usefulness is being able to find percentages of a number. In other words, if you are planning a barbecue and the butcher tells you that 30% of the people want chicken...well, how many people is that? For how many people should you buy chicken?

The key words here are "of a number" this means that you multiply to solve the problem. We can convert the percent to a decimal and multiply or convert it to a fraction and multiply.

Let's suppose that you invited 58 people to the barbecue. If 30% prefer chicken, then we need to know how many people that is.

First, convert 30% to either a decimal or a fraction

$$30\% = .30 \; or \; 30\% = \frac{30}{100} = \frac{3}{10}$$

Using the decimal or fraction, you now multiply by the number of people you invited: $.30 \times 58 = 17.4$ **or about 17 people**

Or

$\frac{3}{10} \times 58 = \frac{174}{10} = 17.4$ or about 17 people.

This is the answer.

Solve each problem.

Example A

What is 20% of 18?

Solution: 3.6

Example B

What is 25% of 40?

Solution: 10

Example C

What is 5% of 80?

Solution: 4

Now back to the dilemma from the beginning of the Concept.

First, let's write a statement about the problem.

We need to figure out 75% of 30,000.

To do this, first convert 75% to a decimal.

$75\% = .75$

Next, multiply.

$.75 \times 30,000 = 22,500$

22,500 people ride the roller coasters.

Vocabulary

Ratio
 a comparison between two quantities.

Percent
 a ratio that is being compared to the quantity of 100. Percent means out of 100.

Fraction
 a part of a whole written using a numerator and a denominator.

Decimal
 a part of a whole written in base ten place value.

Proportion
 two equal ratios form a proportion.

Guided Practice

Here is one for you to try on your own.

A survey stated that 15% of the people surveyed like olives. Out of the 500 people surveyed, about how many like olives?

Solution

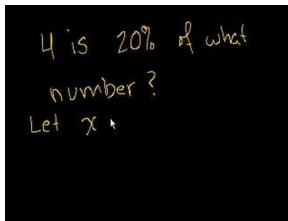First, let's write a statement describing the problem.

15% of 500

Now change the percent to a decimal.

$15\% = .15$

Next, multiply.

$.15 \times 500 = 75$

75 of the people like olives.

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Practice

Find the percent of the given number by converting the percent to a decimal. You may round if necessary.

1. 30% of 90
2. 3% of 12
3. 14% of 900
4. 33% of 99
5. 18% of 100
6. 8% of 72
7. 11% of 50
8. 14.5% of 30
9. 12% of 80
10. 2% of 800
11. 150% of 21
12. 45% of 60

Read the following situations carefully and answer the questions accordingly.

13. For every paycheck you receive, your employer pays 6% to social security. Write this percent as a ratio with a denominator of 100.
14. Jimmy's height is 1.78m. Write his height as a percent of a meter.
15. A store did a survey and found that $\frac{4}{5}$ of its customers have shopped at its competitors' stores within in the previous month. What percent is that?